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Analysis of Quality and Cost Measures and Display for the MyHealthCareOptions Website

Prepared by

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for

The Commonwealth of Massachusetts Health Care Quality and Cost Council

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Task 1 Final Report:

Executive Summary

Executive Summary

This report is a review of the work completed on the first task required under the Massachusetts Health Care Quality and Cost Council (QCC) contract with Massachusetts Health Quality Partners (MHQP) and its partner, the Milliman Corporation. The overall purpose of this work is to review the quality and cost measures included in the QCC's 2008 Reporting Plan and the display of the measures selected from that plan on the QCC's website. In addition we include a section on overall methodological issues and recommendations of particular importance to the clear and accurate presentation of quality and cost data on the QCC website.

Quality Measures and Disparities

Our extensive review of the quality measures included in the QCC's 2008 reporting plan allowed us to highlight the positive aspects of the quality metrics selected by the QCC and at the same time recommend changes to the measures or measure sources where more current information is available. We also assess the relevance of each measure to an analysis of ethnic and racial disparities in the delivery of health care.

Measures of Hospital Performance

Summary of current measure strengths:

- Most of the quality measures displayed on MyHealthCareOptions reflect nationally endorsed measures that have broad stakeholder support and meet the Quality and Cost Council's Principles for Selecting Quality Measures.
- Most of the surgical procedures are elective, giving consumers an opportunity to seek the type of information displayed on the website. Similarly, most of the medical conditions are chronic, so that consumers can plan ahead by educating themselves about their condition and where the best care may be obtained.
- Several of the procedures are high risk procedures that may prompt more consumers to shop around for the best care available.
- Many of the quality measures are outcome measures, which are preferred by consumers and easier for them to understand. All outcome measures have been risk-adjusted to account for differences in the patient populations treated in different hospitals.

Areas for Improvement:

- The current measure set includes some quality measures that have not received national endorsement.
- Some of the current quality measures do not reflect the highest priority medical conditions or procedures in terms of consumer interest, disease burden, opportunity for quality improvement or cost containment, or reduction of racial/ethnic disparities.
- Several of the surgical procedures have no quality measures and there are no process-of-care measures displayed for any of the specific surgical procedures. For several of these procedures, process measures that have been shown to decrease the likelihood of a complication are publicly reported.
- Alternative sources exist for some of the measures currently displayed on the QCC website that are more comprehensive, more timely, or less costly than those currently used. There are some obvious gaps in the conditions and procedures for which performance data are displayed on the website. Most notably, there are no quality measures of pediatric or maternity care.

Disparities in Hospital Quality of Care

There is an abundance of evidence that racial and ethnic disparities in care delivery exist across a wide range of care settings, conditions and procedures. Almost every condition or procedure currently displayed on the QCC website has some evidence of a disparity at the national level or in the literature. For each opportunity, we have provided an estimate of the level at which either the measures or the providers would need to be aggregated in order to illustrate these disparities. A bundled quality measure may permit analysis of potential disparities at the hospital level, while an individual measure of care may need to be aggregated across hospitals to the community or regional level.

Ambulatory Care Quality Measures

Currently, there are no quality measures for outpatient care on the QCC website. The "fit" between the high volume outpatient procedures for which cost information is displayed and those for which related quality measures are available is poor. Recommendations for enhancing the outpatient care measures of quality available on the website encompass both recommendations for improving the information currently displayed, and adding physician office based ambulatory care quality measures using the National Committee on Quality Assurance (NCQA) HEDIS clinical quality effectiveness measures and Massachusetts Health Quality Partner (MHQP) patient experience measures.

Disparities in Office-based Quality of Care

Because health plans have only begun to collect self-reported data on patients' race and ethnicity, the QCC database from which ambulatory care quality measures may be derived does not currently contain these data. It is likely that it will take years before health plans can provide race and ethnicity data for a sufficient proportion of their members to support stratification of measures like HEDIS by race/ethnicity. Based on the assumption that self-reported data will need to be supplemented for a number of years before a critical mass of data are available to support disparities measurement, recommendations for the types of measures and levels of aggregation that are likely to be necessary to measure quality in the ambulatory setting include the management of chronic disease and preventive care services **at the regional or community level**.

Cost and Utilization Measures

Healthcare cost and utilization data are often viewed as more difficult to interpret and assess when compared to data from other types of transactions involving goods or services. The frequent lack of clarity around definitions of service payment and service units can confuse consumers looking for a simple display of hospital pricing on a website. To aid in understanding the variability of approaches used for displaying healthcare cost and pricing information, the report summarizes some of the key payment and utilization issues and the reporting incentives for the providers, payers and consumers involved in a healthcare transaction.

We found many aspects of the My Healthcare Options website to be as good or better than the practices of other sites, although there are some opportunities for improvement.

Current Positive Features

The My Healthcare Options website exhibits several important strengths in its display of cost information:

- Use of paid claim data (including the patient's copayment amount) rather than billed charge data provides a more meaningful basis for hospital comparisons. Hospital practices for setting charges can vary significantly among hospitals and may bear only limited relationship to prices that hospitals negotiate with insurers, which are often significantly less.

- Explanation of statistical methods for calculations. While many consumers may not have great interest in statistical methods, their publication on the website improves the transparency of the data presented. There is some potential for further improvements in the wording to make the explanations more easily understood by those users interested in this level of detail.

- Risk adjusted hospital comparisons that consider differences in the severity of the medical conditions treated permit more meaningful comparisons among hospitals.

- Side-by-side comparison of data from selected hospitals aids in analyzing differences among healthcare options.

- Specification of a minimum sample size of 30 cases before display of findings supports more appropriate, statistically-significant comparisons.

Short-Term Improvements

Based on our assessment, we recommend one improvement for QCC's attention in the short term:

- In addition to the median price currently provided for comparison purposes, adding cost ranges, such as at the 15^{th} and 85^{th} percentile costs. In some cases, procedure costs will vary considerably and this would help give the consumer greater insight on potential costs.

Longer-Term Improvements

These areas will be addressed in more detail in future reports. Based on this initial review, however, areas worth further consideration include:

- The addition of a capability for users to enter insurance information and receive an estimate of their own expected costs. For example, at the State of New Hampshire consumer site, after selecting a procedure, visitors are directed to a webpage in which they enter demographic information, the name of their insurance carrier, coverage type (HMO, PPO, etc.), deductible, and copayment requirements. The website then provides an estimate of likely out-of-pocket costs.

- Explore the legal and regulatory issues relative to the addition of self-insured employer and multi-employer claims to the database. Adding these populations should

significantly increase the robustness of the data which now only includes commercial fully-insured paid claims.

- Comparison of the Massachusetts hospital paid claim levels to benchmarks based on national data and also, possibly, to Medicare rates. This would allow consumers to better understand the significance of high or low costs of Massachusetts hospitals within a broader context. For example, a consumer may find it valuable to know that a local hospital is well within expected cost ranges given costs for hospital care nationally, even if its costs might appear significantly different than other local hospitals.

- The addition of average length of stay information to permit consumers to better assess differences among provider alternatives.

- More sophisticated analytical tools to enable consumers, providers, employers, or other stakeholders to "drill down" further into the components of expected costs and comparisons among alternative providers. In addition, such tools could permit users to switch views of findings between table and graphical displays depending on how they are best able to assess alternatives.

- The inclusion of cost information for treatment modalities other than hospital care such as physician services and prescription drugs. The use of episode groupers could help support cost comparisons in these areas.

- Identification and pricing of treatment alternatives that may address the same medical need. For example, treatment of a specific condition may have pharmaceutical and surgical options. QCC would need to carefully explain how the consumer should consider the results provided through this feature to avoid the appearance of offering medical advice.

Review Council's Existing Website Display

MHQP and its consultants have extensive experience in designing, developing and implementing websites containing health care quality and patient experience information targeted to consumers. The team reviewed over 100 websites, using an evaluation tool drawn from our own experience as well as with criteria from articles and papers focused on best practices for reporting useful quality information to consumers.

What works well on the MyHealthCareOptions website

The report highlights what works well on the QCC website as well as what works less well. We found that much of the current website works well. The MyHealthCareOptions site has incorporated many of the items that experts recommend and has included some details that are very useful and not found on most other sites. For example, the Welcome Page uses attractive colors and images and lists several reasons why consumers should look at this site. Importantly, the site reports on both cost and quality results where both exist and provides details on how the measures were constructed, including statistical information. It also notes whether a high or low score means better performance and gives other details that can help the consumer understand the costs displayed, including the number of patients and severity of illness for a given hospital.

What works less well on the MyHealthCareOptions website

While there is much to recommend in the MyHealthCareOptions website, as with all websites, there is always room for improvement. Often an outside evaluation can bring up areas of improvement that might not be obvious to those working so closely on the site and provide further evidence to support changes and improvements which the original designers wish to implement. In the report that follows we have presented some of the major changes that we would recommend, along with examples from the QCC's site and other health care sites that illustrate the recommendation.

Some of our recommendations include:

- Adding a section on "what is quality" and "what is cost"
- Being clear on what summary scores represent
- Fixing inconsistency between symbols and language around statistical significance
- Allowing users to create a complete report about a hospital's performance
- Adding tools that allow easier navigation of the site.

Methodological Issues and Recommendations Relevant to the QCC Website

Over the course of our review of the current QCC website, analysts at MHQP and Milliman have noted five methodological approaches of particular importance to the clear and accurate presentation of quality and cost data. The issues we reviewed include the following:

- Use of Mean or Median to Compare Cost Results
- Minimum Sample Size for Reporting a Measure on Website
- Benchmarks for Quality and Cost Measures
- Methods for Calculating Summary Measures for Quality
- Displaying Rankings vs. Statistical Significance on Website Summary Page

A summary of our recommendations on each issue is presented here. In the report that follows we provide a list of advantages and disadvantages to each of these recommendations.

I. ISSUES WHERE WE CONCUR WITH THE QCC METHODS

A. Use of Mean or Median to Compare Cost Results

Providers, in most cases, receive a range of payments for a given procedure. It is therefore helpful to determine a specific cost point that can be used to compare one provider's costs to other selected providers and/or to a statewide benchmark. Both means and medians can be good statistics to use in this case.

- ***We are recommending the QCC continue to use medians.***
    - Medians minimize bias related to data base anomalies and outliers since they are less influenced by a small number of data points.
    - Medians also are more helpful to consumers because they are more likely than mean values to approximate the dollars associated with a typical paid claim.
    - Consumers can readily understand the notion that half of the claim paid amounts will be lower and half will be higher than the displayed amount.

B. Minimum Sample Size for Reporting a Measure on Website

Using an accepted minimum sample size for reporting results helps to ensure that the results will reliably represent the performance of a provider and distinguish real differences in performances among providers. The ideal minimum reliable sample size can vary based on numerous issues.

We recommend that the QCC continue with its current decision to establish a minimum sample size specific to each measure set, using a recognized conventional minimum where one exists.

II. ISSUES WHERE WE CONCUR WITH THE QCC'S METHODS BUT RECOMMEND EXPANSION

A. Benchmarks for Quality and Cost Measures

Benchmarks provide a reference to help the consumer assess the quality or cost of a particular provider beyond direct comparisons with other individual providers.

- ***We recommend the use of at least two benchmarks for both quality and cost measures***.
    - For quality we recommend the QCC continue to use one benchmark based on the average of all of the results for the entire Massachusetts population included in a given measure and add one benchmark based on the 85th percentile score within the state. Ideally a third external benchmark, such as a national or New England regional rate, should be included if it is available.
    - For cost measures we recommend the QCC continue to use the statewide median provider cost and a within-state regional provider-level median cost, where possible. A national rate also should be included if appropriate.

B. Methods for Calculating Summary Measures for Quality

There are a wide variety of methods that can be used to summarize results on individual quality measures in order to form a broader statement about the performance of a given provider.

- ***We recommend that the QCC continue to use the Summary Compliance Rates (sum of component measure numerators/sum of component measure denominators) for the data currently on the QCC website.***
    - The Summary Compliance Rate is referred to as the "Opportunities" approach and is used by The Joint Commission and CMS.
    - In addition to being used by several national sources, the method is transparent and easily understood. While missing data can affect Summary Compliance Rates, the current hospital measures have little missing data.
- ***For a few specific areas of measurement, where all applicable services are clearly rendered to the same patient in the same facility for the same condition or procedure, we recommend the use of the percent of patients in compliance on all applicable measures as the preferred method***.

III. METHODOLOGICAL ISSUE WHERE WE RECOMMEND REVISIONS

A. Displaying Rankings vs. Statistical Significance on Website Summary Page

Options for displaying summary results include the use of rankings and/or statistical significance. The purpose of a summary page is to give the viewer a quick sense of the relative performance of different providers. Since ranks and statistical significance can deliver contradictory measures, displaying both can defeat that purpose and result in confusion for the consumer.

- ***We recommend using only statistical significance.***
- ***We further recommend that the statistical significance be displayed with 1 – 3 stars for the quality metrics and 1 – 3 dollar signs for cost metrics where the symbols represent performance that is below average, not different from the average, and above average.***
    - For quality measures, the stars should be accompanied by the actual score which could be displayed as a bar on a bar chart.
    - For cost measures, the dollar signs should be accompanied by either the median cost or the 15thth to 85th percentile costs, with costs displayed as a bar graph that shows the 15th percentile cost on the left end of the bar and the 85th percentile cost on the right end of the bar.
- ***Finally, we recommend the QCC consider having the display show the best performers (above average for quality and below average for cost) at the top of the chart, followed by the average performers, with the lowest performers last.***
    - Within each category, providers should be listed in order of performance with the best at the top.
    - For example, all hospitals with above average scores on a quality indicator should be listed in rank order at the top of the chart, followed by the average hospitals in rank order and the below average hospitals in rank order (see examples on page 71).